

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date: **TBD**

Region: Winston-Salem Regional Office
County: Rockingham
NC Facility ID: 7900038
Inspector's Name: Maria Aloyo
Date of Last Inspection: 06/15/2017
Compliance Code: 3 / Compliance - inspection

<p style="text-align: center;">Facility Data</p> <p>Applicant (Facility's Name): Pine Hall Brick Co., Inc.</p> <p>Facility Address: Pine Hall Brick Co., Inc. 634 Lindsey Bridge Road Madison, NC 27025</p> <p>SIC: 3251 / Brick And Structural Clay Tile NAICS: 327121 / Brick and Structural Clay Tile Manufacturing</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V</p>	<p style="text-align: center;">Permit Applicability (this application only)</p> <p>SIP: 02D: .0515, .0516, .0521, .0524, .1100, .1109, .1806 02Q: .0317, .0711</p> <p>NSPS: Subpart OOO NESHAP: Subpart ZZZZ, Case-by-Case MACT PSD: n/a PSD Avoidance: CO NC Toxics: 02D .1100, 02Q .0711 112(r): n/a Other:</p>
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Contact Data			Application Data
Facility Contact	Authorized Contact	Technical Contact	<p>Application Number: 7900038.17A Date Received: 05/30/2017 Application Type: Renewal Application Schedule: TV-Renewal</p> <p style="text-align: center;">Existing Permit Data</p> <p>Existing Permit Number: 03997/T26 Existing Permit Issue Date: 12/16/2016 Existing Permit Expiration Date: 02/28/2018</p>
Preston McMillan VP Technical Services (336) 548-6007 PO Box 836 Madison, NC 27025	Preston McMillan VP Technical Services (336) 548-6007 PO Box 836 Madison, NC 27025	Preston McMillan VP Technical Services (336) 548-6007 PO Box 836 Madison, NC 27025	

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2015	4.68	40.34	7.84	126.91	108.54	29.65	19.06 [Hydrogen fluoride (hydrofluori)]
2014	3.96	34.16	6.43	108.58	92.37	25.22	16.41 [Hydrogen fluoride (hydrofluori)]
2013	3.94	33.85	6.46	100.09	92.30	24.45	15.75 [Hydrogen fluoride (hydrofluori)]
2012	3.97	34.23	6.44	96.45	92.49	26.59	17.50 [Hydrogen fluoride (hydrofluori)]
2011	24.13	36.23	9.21	106.81	96.59	39.58	28.60 [Hydrogen fluoride (hydrofluori)]

<p>Review Engineer: Russell Braswell</p> <p>Review Engineer's Signature: _____ Date: _____</p>	<p style="text-align: center;">Comments / Recommendations:</p> <p>Issue 03997/T27 Permit Issue Date: TBD Permit Expiration Date: TBD</p>
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1. Purpose of Application:

Pine Hall Brick Co., Inc. (PHBC) currently operates under Title V Air Quality Permit 03997T26, which is set to expire on February 28, 2018. PHBC has submitted this permit application in order to renew the Title V permit. Because this application was submitted at least nine months before the expiration date, the existing permit will remain in effect, regardless of the expiration date, until this application is processed.

2. Facility Description:

According to the most recent inspection report (Maria Aloyo; June 15, 2017), this facility manufactures decorative and structural bricks. The facility has three separate plants (#3, 4, and 5). The kilns in Plant 3 have not operated since 2011, but other brickmaking operations there still operate. Kilns 3 and 4 can burn wood, kiln 5 can only burn natural gas.

The facility recently installed on Kiln 4 an adsorber to control hydrogen chloride/fluoride, and a bagfilter to control particulate. Kiln 3 is only controlled with cyclones, and Kiln 5 is uncontrolled.

3. History/Background Since the Previous Permit Renewal:

- March 26, 2013 Permit T23 issued in response to application .07B. This action renewed the Title V permit and also added the Case-by-Case MACT for Brick Manufacturers to the permit.
- April 5, 2013 Permit T24 issued. This was an administrative amendment to correct the initial compliance date of the Case-by-Case MACT.
- August 18, 2013 Permit T25 issued in response to application .13B. This was a TV-Minor modification that allowed PHBC to rout the exhaust of the Plant 4 brickmaking room to the outdoors.
- January 12, 2016 DAQ granted a one year extension to the initial compliance date of the Case-by-Case MACT.
- December 16, 2016 Permit T26 issued in response to application .16A. This was a TV-Minor modification that added a bagfilter to Kiln 4. PHBC felt this filter was necessary to comply with the Case-by-Case MACT.

4. Application Chronology:

- June 5, 2017 Application received in Raleigh Central Office (postmarked May 24).
- July 6, 2017 An initial draft of the permit and review were sent to DAQ staff (Tom Anderson, Joe Voelker, Samir Parkeh, Maria Aloyo, Davis Murphy) for internal review. For a summary of comments received, see Attachment 2.
- August 3, 2017 A draft of the permit and review were sent to PHBC staff (Preston McMillan). For a summary of comments received, see Attachment 3.
- XXXX Public / EPA Notice

- XXXX Permit issued.

5. Permit Modifications/Changes and TVEE Discussion:

The list of changes to the permit can be found in Attachment 1.

6. Regulatory Review:

PHBC is subject to the following regulations, in addition to the requirements in the General Conditions:

- 15A NCAC 02D .0515 "Particulates from Miscellaneous Industrial Processes"
- 15A NCAC 02D .0516 "Sulfur Dioxide from Combustion Sources"
- 15A NCAC 02D .0521 "Control of Visible Emissions"
- 15A NCAC 02D .0524 "New Source Performance Standards" (40 CFR Part 60, Subpart OOO)
- 15A NCAC 02D .1100 "Control of Toxic Air Pollutants"
- 15A NCAC 02D .1109 "112(j) Case-by-Case Maximum Achievable Control Technology"
- 15A NCAC 02Q .0317 "Avoidance Conditions" (PSD Avoidance)
- 15A NCAC 02Q .0711 "Emission Rates Requiring a Permit"
- 40 CFR Part 60, Subpart JJJJ "Stationary Spark Ignition Internal Combustion Engines"
- 40 CFR Part 63, Subpart ZZZZ "Stationary Reciprocating Internal Combustion Engines"

An extensive review for the following rules is not included in this document because the facility's status with respect to these regulations has not changed: 02D .0515, .0516, and .0521. The permit will be updated to reflect the most current stipulations for all applicable regulations. See Section 7 for a review of other applicable rules for this facility.

7. Rules Review:

a. New Source Performance Standards (NSPS)

1. 40 CFR Part 60, Subpart OOO "Nonmetallic Mineral Processing Plants"

This rule applies to all mineral processing plants that employ a crusher on-site and were constructed after 1983. All of the material handling sources (which are located in Plant 3) are subject to this rule.

This rule has specific opacity standards depending on the type of source and if the source is enclosed in a building. In order to demonstrate compliance, the facility must perform regular observations of the subject sources for visible emissions. Records of monitoring must be kept and reported twice per year.

During the most recent inspection, PHBC appeared to be in compliance with this rule. Continued compliance is expected.

2. 40 CFR Part 60, Subpart JJJJ "Stationary Spark Ignition Internal Combustion Engines"

This rule applies to stationary emergency-use engines constructed after January 2009. At this facility, only the engine I-GEN is subject to this rule.

In order to demonstrate compliance with this rule, the general requirements are: operate according to the manufacturer's specifications, purchase an engine certified to the limits in Subpart JJJJ, install an hour meter, and keep records of hours operated.

Because this rule only applies to sources on the Insignificant Activities List, the Title V permit will not contain a specific condition for this rule. PHBC will still have to comply with this rule.

During the most recent inspection, PHBC appeared to be in compliance with this rule. Continued compliance is expected.

b. Maximum Available Control Technology (MACT)

Based on actual emissions of hazardous air pollutants (HAP) from this facility, this facility is considered a Major Source of HAP.

1. *40 CFR Part 63, Subpart ZZZZ "Stationary Reciprocating Internal Combustion Engines"*

This rule applies to all stationary internal combustion engines. The rule has differing requirements based on the size, nature, manufacturing date, etc. of the engine. Engines manufactured or constructed after June 12, 2006 and with a capacity less than 500 horsepower are considered "new", and others are considered "existing".

At this facility, the engines I-GEN, I-GEN1, and I-GEN2 are new, and I-GEN3 is existing.

According to 63.6590(c)(6), new engines with a capacity less than 500 horsepower have no requirements under this rule.

For existing emergency-use engines with a capacity less than 500 horsepower (i.e. I-GEN3), the general requirements are to regularly perform maintenance of belts, hoses, and oil, operate with good work practices, and install an hour-meter on each engine.

Because this rule only applies to sources on the Insignificant Activities List, the Title V permit will not contain a specific condition for this rule. PHBC will still have to comply with this rule.

During the most recent inspection, PHBC appeared to be in compliance with this rule. Continued compliance is expected.

2. *40 CFR Part 63, Subpart JJJJJ "Brick and Structural Clay Products Manufacturing"*

This rule was originally promulgated in May 2003. However, it was later vacated, prompting NCDAQ to create a Case-by-Case MACT (CBCM) to temporarily replace it. This rule was again promulgated in October 2015. Because this facility is subject to a CBCM, the CBCM will continue to apply in place of this one for eight years following the promulgation date of this rule.

Initial and continued compliance with this rule will be evaluated at a date closer to when this facility will be subject to it.

3. *Case-by-Case MACT for Brick Manufacturers*

The original rule promulgated under 40 CFR Part 63, Subpart JJJJJ was vacated in March 2007. In response, NCDAQ, as required by Clean Air Act Section 112(j), created a statewide CBCM for

brick manufacturing. Based on the issue date of this rule, initial compliance was required by March 26, 2016. PHBC requested, and was granted, an extension to March 26, 2017.

The rule requires that Kiln 3 be operated with good work practices, places PM emission limits on Kilns 4 and 5, and limits facility-wide emissions of HCl and HF. In addition, the facility must perform regular monitoring and maintenance of associated control devices.

PHBC performed emission testing on May 19-20, 2016 and February 21, 2017 in order to demonstrate initial compliance for Kilns 4 and 5. **As of the issuance of this permit, the February 21 test remains under review.**

In order to demonstrate compliance, the facility must perform regular inspection and maintenance on each of the kilns and control devices. Records of inspections and maintenance must be kept and reported twice per year.

The permit conditions for this rule have been updated. In the previous permit, requirements for Kiln 3 appeared in two separate conditions (2.1 B.4 and 2.2 B.4). These requirements have been consolidated into 2.2 B.4. This change is only for clarity, and will not affect the facility's compliance requirements under the rule. Furthermore, the initial compliance testing requirement has been removed from the permit because the facility has already completed this testing.

During the most recent inspection, PHBC appeared to be in compliance with this rule. Continued compliance is expected.

c. Prevention of Significant Deterioration (PSD)

This facility has not triggered a PSD review. The facility has accepted an enforceable limit on CO emitted from Kilns 4 and 5 in order to avoid triggering a PSD review. The combined limit for the two kilns is 250 tons per year.

The facility must calculate and keep records of CO emissions in order to demonstrate compliance with the PSD avoidance limit.

The permit condition for PSD avoidance has been changed slightly in order to make the equation clearer and easier to update in the future, if necessary. Ultimately, the requirements of this rule have not changed.

d. Section 112(r) of the Federal Clean Air Act

The facility does not appear to store any 112(r)-subject materials above their respective thresholds. Therefore, the facility does not have any increased requirements under Section 112(r) of the Clean Air Act.

e. Reasonably Available Control Technology (RACT)

The facility is not located in an area of ozone nonattainment, therefore RACT does not apply.

f. Compliance Assurance Monitoring (CAM)

CAM applies to a control device if the following criteria are met:

- The unit being controlled is subject to a non-exempt emission standard (as defined by 02D .0614(b)(1)),
- The control device is being used to comply with the emission standard, and
- The unit being controlled has potential emissions of the pollutant subject to the emission standard of greater than major source thresholds.

PHB uses control devices to limit particulate matter (PM10) and hydrogen chloride and fluoride (HCl and HF). Each are analyzed below:

1. *PM10:*

Each source that uses a PM control device has potential PM10 emissions less than 100 tons per year. Therefore, no PM control device is subject to CAM.

2. *Hydrogen fluoride and hydrogen chloride:*

The facility uses a dry limestone adsorber to control acid gas emissions from Kiln 4. This control device is used to comply with two regulations: 02D .1100 and 02D .1109.

02D .1100 does not trigger CAM because it is not a Federally-enforceable rule. 02D .1109 does not trigger CAM because the Case-by-Case MACT for Brick Manufacturers is exempt per 02D .0614(b)(1)(A).

Therefore, there are no sources subject to CAM at this facility.

8. Toxic Air Pollutants

The facility has previously performed air dispersion modeling in order to demonstrate compliance with the limits in 02D .1104. The emission rates used in the modeling have been added to the permit as emission limits. Additionally, the facility has reviewed TAP emission rates and compared them to the limits in 02Q .0711.

In order to comply with the modeled emission limits, the facility has accepted a combination of minimum stack heights and maximum production rates on each kiln.

The permit previously did not include any monitoring or recordkeeping specifically aimed at toxic air pollutants. The permit has been updated to include a requirement to monitor the production rate of each kiln. Note that the Case-by-Case MACT already requires monitoring of production rates, so this requirement will not add an additional burden to the facility.

9. Facility Emissions Review

See the table on the first page of this review for a summary of reported actual emissions from this facility.

This permit renewal is not expected to change potential emissions from this facility.

10. Compliance Status

a. Notices of Violation/Recommendation for Enforcement since the previous renewal

- NOV issued on November 25, 2015. PHBC had failed to conduct annual inspections of some control devices.

- NOV issued on February 16, 2016. PHBC had not been conducting VE testing on a weekly basis as required by the permit.

b. Inspection status

This facility was most recently inspected by Maria Aloyo on June 15, 2017. PHBC appeared to be in compliance with the Title V permit at the time of that inspection.

11. Other Regulatory Concerns

A PE seal was not required for this permit renewal.

A zoning consistency form was not required for this permit renewal.

12. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA.

Also pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 02Q .0521 above.

13. Recommendations

Issue permit 03997T27.

Change List

Copy from final permit



Comments Received on Initial Draft

- Mark Cuilla, by email on July 24, 2017

1. Mark pointed out several typos throughout the permit and review.

Response: Fixed.

2. Why do the kilns in Plant 3 have an additional ID number (3ES-KILNDRY)?

Response: This appears to be a remnant of a previous numbering setup. I have removed references to this from the permit.

3. In a few places in the permit, an internally venting bagfilter is mentioned in association with Plant 3. The permit should be consistent in how this is addressed.

Response: Some sources in Plant 3 can be vented indoors through a bagfilter that only vents indoors. Given that DAQ generally does not include sources that only vent indoors, I believe that the permit should not mention this bagfilter. I have made the appropriate changes throughout the permit.

- Maria Aloyo, by email on July 28, 2017

1. Maria pointed out several typos throughout the permit and review.

Response: Fixed.

2. IGEN-1 and 2 are subject to NSPS Subpart JJJJ. The review should discuss this, and the permit should indicate this.

Response: Fixed.

- Mark Huncik, by email on August 15, 2017

1. Mark pointed out typos throughout the permit and review.

Response: Fixed.

2. Mark requested that an additional emergency generator (I-GEN3) be added to the insignificant list. He included the relevant information for this generator.

Response: Added.

3. Mark stated that the analysis of MACT ZZZZ and NSPS JJJJ applicability included in the draft review was incorrect. Mark included the manufacture date of each engine with the following conclusions:

- a. I-GEN is subject to NSPS JJJJ and MACT ZZZZ.
- b. I-GEN1 and I-GEN2 are not subject to NSPS JJJJ, but are "new" according to MACT ZZZZ.
- c. I-GEN3 is not subject to NSPS JJJJ and is "existing" under MACT ZZZZ.

Response: After reviewing the supplied information, I agree with this analysis. I have updated the review in order to reflect this information.